

OTO 2017 Priority Projects

Priority	County	Route	Description	Cost Rough Estimate
1	GR/Christian	Various	ITS fiber signal connections to Republic, Nixa and Ozark	\$ 1,500,000.00
2	Greene	65/60/I-44	I-244 Interstate Loop Improvements	Unknown
3	GR/Christian	Various	Sidewalk Improvements to MoDOT Corridors	\$ 1,000,000.00
4	Christian	14	Capacity and Pedestrian Improvements, Fremont to W of 32nd	\$ 6,200,000.00
5	Gr/Ch	160	Intersection and Safety Improvements Plainview to 14	\$ 5,000,000.00
6	Greene	160	Capacity Improvements from FR 94 to AB	\$ 7,000,000.00
7	Christian	14	Intersection Improvements at 6th	\$ 5,000,000.00
8	Greene	MM	Capacity improvements, I-44 to JRF	\$ 15,000,000.00
9	Christian	14	Capacity and Pedestrian Improvements from Ridgecrest to 32nd	\$ 21,000,000.00
10	Greene	60	Capacity improvements from US 65 to Kansas	\$ 28,000,000.00
11	Greene	60	Build outer road system to support freeway (65 to 213)	Unknown
12	Christian	65	Capacity Improvements, Route CC to 14	\$ 12,000,000.00
13	Christian	65	Capacity Improvements from Route 14 to South/F	\$ 22,000,000.00
14	Christian	14	Capacity improvements, 3rd st. to Rte. W	\$ 20,000,000.00
15	Greene	65	Evans Road Interchange	Unknown
16	Greene	MM	Railroad overpass w/o Rte. 60	\$ 12,000,000.00
17	Greene	MM	Intersection Improvements at Sawyer	\$ 2,000,000.00

Issues requesting further evaluation

Greene	60	Study to evaluate best freeway design from US 65 to 125
Greene	I-44	Capacity improvements, Glenstone to 65
Greene	I-44	Capacity improvements, Kansas to Glenstone

OTO Priority Projects with Scores

Priority	Total Points	County	Route	Description	Priority Project	CR Rate		RR Crossing	V/C Current	V/C Ratio Future	MTP		Env Justice	NumMod es	Trip Reduction	Freight Access	Travel Time	Cost Rough Estimate
						Priority Score	Safety Concern				Access Mgmt	ITS_Reg						
1	N/A	GR/Christian	Various	ITS fiber signal connections to Republic, Nixa and Ozark														\$ 1,500,000.00
2	N/A	Greene	65/60/I-44	I-244 Interstate Loop Improvements														Unknown
3	N/A	GR/Christian	Various	Sidewalk Improvements to MoDOT Corridors														\$ 1,000,000.00
4	73	Christian	14	Capacity and Pedestrian Improvements, Fremont to W of 32nd	25	15	5	0	7	5	0	0	4	2	0	5	5	\$ 6,200,000.00
5	65	Gr/Ch	160	Intersection and Safety Improvements Plainview to 14	25	15	5	0	0	5	0	0	2	1	0	5	7	\$ 5,000,000.00
6	53	Greene	160	Capacity Improvements from FR 94 to AB	25	5	0	0	7	5	0	0	0	1	0	5	5	\$ 7,000,000.00
7	48	Christian	14	Intersection Improvements at 6th	25	10	5	0	0	5	0	0	2	1	0	0	0	\$ 5,000,000.00
8	46	Greene	MM	Capacity improvements, I-44 to JRF	25	5	0	0	0	5	0	0	0	1	0	5	5	\$ 15,000,000.00
9	54-63	Christian	14	Capacity and Pedestrian Improvements from Ridgecrest to 32nd	25	5	5	0	0	5	0	0	2	2	0	5	5	\$ 21,000,000.00
10	56-63	Greene	60	Capacity improvements from US 65 to Kansas	25	15	0	0	7	5	0	0	4	1	0	5	0	\$ 28,000,000.00
11	53	Greene	60	Build outer road system to support freeway (65 to 213)	25	5	5	0	0	5	3	0	2	1	0	5	2	Unknown
12	43	Christian	65	Capacity Improvements, Route CC to 14	25	5	5	0	0	0	0	0	2	1	0	5	0	\$ 12,000,000.00
13	50	Christian	65	Capacity Improvements from Route 14 to South/F	25	10	5	0	0	0	0	0	4	1	0	5	0	\$ 22,000,000.00
14	48	Christian	14	Capacity improvements, 3rd st. to Rte. W	25	10	5	0	0	5	0	0	2	1	0	0	0	\$ 20,000,000.00
15	46	Greene	65	Evans Road Interchange	25	5	0	0	7	5	0	0	3	1	0	0	0	Unknown
16	41	Greene	MM	Railroad overpass w/o Rte. 60	25	0	0	5	0	0	0	0	0	1	0	5	5	\$ 12,000,000.00
17	41	Greene	MM	Intersection Improvements at Sawyer	25	5	0	0	0	0	0	0	0	1	0	5	5	\$ 2,000,000.00

Issues requesting further evaluation

N/A	Greene	60	Study to evaluate best freeway design from US 65 to 125															
50	Greene	I-44	Capacity improvements, Glenstone to 65	25	5	5	0	0	5	5	0	0	4	1	0	5	0	
62	Greene	I-44	Capacity improvements, Kansas to Glenstone	25	10	5	0	7	5	5	0	0	4	1	0	5	0	

FY 2018-2022 STIP Project Prioritization Glossary

1. Priority Projects

1.1. Located along a Priority Corridor of Regional Significance

Yes = 25 Points

No = 0 Points

OTO maintains a map showing the Priority Projects of Regional Significance. Projects along these corridors received the total point value.

2. Safety

2.1. Crash Rate Index for Project Segments and Intersections

Crash rates for all segments and intersections were calculated using a weight for accidents according to severity. The MoDOT Accident data from the 3-year period from 2012 to 2014 were used in crash rate index calculations. Each type of accident was weighted using the corresponding value:

Fatality (F) = 9

Disability (D) = 6

Minor Injury (MI) = 2

Property Damage Only (PDO) = 1

*The weighted accidents along project **segments** were summed and multiplied by 100,000,000 and divided by the 3-year period times the number of days in a year, the average daily traffic volume, and the length of the segment in miles:*

$$\frac{((F*9) + (D*6) + (MI*2) + (PDO*1)) * 100,000,000}{3 \text{ [yrs]} * 365[\text{days}] * [\text{AADT}] * [\text{Length}]}$$

*The weighted accidents at **intersections** were summed and multiplied by 1,000,000 and divided by the 3-year period times the number of days in a year, the average daily volume of vehicles entering the intersection:*

$$\frac{((F*9) + (D*6) + (MI*2) + (PDO*1)) * 1,000,000}{3 \text{ [yrs]} * 365[\text{days}] * [\text{ENTERING_VOLUME}]}$$

Each roadway in the OTO region is classified to Roadway Type. A combined severity weighted crash rate was calculated for each Roadway Type. The crash rates by Roadway Type were classified into quartiles representing percentile ranks. This same rate for an individual project's roadway was compared to the rate by roadway type and given the following value depending on its rank among the quartile ranges:

0 – 25% = 0

25.1% - 50% = 5

50.1% - 75% = 10

75.1% - 100% = 15

2.2. Safety Concern

Yes = 5 Points

No = 0 Points

The MoDOT Southwest District maintains a list of locations with safety needs and concerns. This list was referenced to determine if a project was a safety concern. If a project appeared in the Southwest District 2016 Safety Plan, it received a value of five points.

2.3. Improvement or Removal of At-Grade Railroad Crossing

Yes = 5

No = 0

If a project improves or removes an at-grade railroad crossing, it received five points.

3. Congestion Management

3.1. Volume-to-Capacity Ratio

Current greater than or equal to 0.86 = 7 Points

Future (2040) greater than or equal to 0.86 = 5 Points

A volume-to-capacity ratio for roadways in the OTO region was calculated using 2015 Average Annual Daily Traffic totals obtained from MoDOT and was compared to roadway capacities stored in the travel demand model. This volume-to-capacity ratio is used for the "Current" V/C scoring. In addition, the travel demand model includes a future no-build scenario. The no-build scenario is for 2040, but also includes projects committed through 2018. The projected volume to capacity ratio for the 2040 no-build scenario is used for the "Future" V/C scoring. The ratio of 0.86 is considered Level of Service E (or at capacity).

A project along a roadway receives the 7 points if it's volume-to-capacity ratio is greater than or equal to 0.86. The project receives five points if it is along a roadway that is also at 0.86 in the 2040 No-Build Scenario. Volume-to-capacity ratios were calculated for individual lanes. A project was awarded points based on the highest lane value intersecting the project road segment or intersection/interchange.

3.2. Complies with Major Thoroughfare Plan Access Management

Yes = 3 Points

No = 0 Points

The OTO maintains a Major Thoroughfare Plan with Design Standards, which directs how roadways in the region should be designed and built. Projects which are described as improving access management and building to the standard, as well as new projects which will be built with access management, receive the total point value.

3.3. Included in Regional ITS Architecture

Yes = 5

No = 0

The Regional ITS Architecture is a plan which includes Intelligent Transportation System improvements needed throughout the region. If a project includes ITS technologies, it receives the total point value.

4. Environmental Justice

4.1. Environmental Justice Tracts

The Plan describes how environmental justice areas are determined. There are four categories specifically addressed – Minority (including Hispanic persons), Elderly (ages 65 and over), Low-Income (below poverty level), and Disabled. Each of these categories has been mapped by Census Tract. If the value for one of these categories is greater than the average for the MPO area as a whole, it is considered an EJ (environmental justice) tract. If a project intersects with one or more EJ Tract categories, it receives points based on the following scale.

Intersecting 4 EJ Tracts = 5 points

Intersecting 3 EJ Tracts = 4 points

Intersecting 2 EJ Tracts = 3 points

Intersecting 1 EJ Tract = 2 points

Intersecting 0 EJ Tracts = 0 points

5. Multi-Modal

5.1. Intermodal Benefit (Bike/Ped/Transit and Truck/Rail)

Connects more than 2 modes or services = 7 points

Facilitates transfer or intermodal potential between 1 to 2 modes = 5 points

No intermodal potential = 0 points

A project can receive the total point value of 7 points if it connects more than 2 modes, but if it only connects to one or two additional modes, then it can only receive 5 points. A single-mode project does not receive points in this category.

5.2. Vehicle Trip Reduction

Project encourages reduction of trips/discourages SOV use = 3 points

No trip reduction = 0 points

SOV means single-occupancy vehicle. If a project includes bicycle and/or pedestrian accommodations, it receives the total point value.

6. Economic Development

6.1. Improves Access to Major Freight Centers or Corridors or is in the State Freight Plan

Yes = 5

No = 0

Access to Major Freight Centers is defined as along a U.S. Highway or direct access to a U.S. Highway and connecting routes that connect one U.S. route to another. If a project met this requirement it received the total point value.

6.2. Local Priority Project

Defined leadership and strong political support = 10

Unknown or no leadership or no political support = 0

Each jurisdiction was asked to identify priority projects. Identified projects received the total point value.

7. Travel Time

7.1. The OTO employs Acyclica wifi sensors to develop travel time analytics at locations along roadways in the region. In addition OTO has access to HERE data which utilizes mobile signals. This data is used to calculate travel time and delay information during peak travel times. This data is used in the Congestion Management Process (CMP) to identify factors indicating congested areas on OTO region roadways. Points are awarded according to the length of travel time at locations during AM or PM peak travel times on the following scale:

Above the Speed Limit to 4.9 mph Below = 0

5.0 to 9.9 mph Below the Speed Limit = 2

10.0 to 19.9 mph Below the Speed Limit = 5

20.0 mph or more Below the Speed Limit = 7